

REMARKS

In response to the above-identified Final Office Action ("Action"), Applicants submit the following remarks and seek reconsideration thereof. Claims 1-5 have been withdrawn. In the instant response, claim 1 is amended, no claims are added and no claims are cancelled. Accordingly, claims 6-10 are pending.

The instant application is directed to a method of manufacturing a distributed analog phase shifter, the method comprising, depositing a ferroelectric film on a substrate, etching the ferroelectric film to form ferroelectric patterns, depositing a metal layer on the substrate on which the ferroelectric patterns are formed; and forming a coplanar waveguide, first electrodes, a ground line, and second electrodes by etching the metal layer covering the ferroelectric patterns, wherein the first electrodes and the second electrodes are formed such that portions of the first electrodes and second electrodes overlap with the ferroelectric pattern, respectively.

I. Amendments

Applicants respectfully submit herewith an amendment to claim 6 in which the steps of the claim are amended to indicate the order in which they are performed by including designators (a) – (d) before the respective step. Applicants respectfully submit the amendments to claim 1 merely clarify the order in which the steps are performed and therefore do not add new matter. Applicants respectfully submit the amendments to claim 1 places the claim in condition for allowance and/or in better form for appeal. See MPEP 714.12. Accordingly, since the amendments do not add new matter and are supported by the specification, Applicants respectfully request consideration and entry of the attached amendments.

II. Drawing Objection

In the outstanding Action, the Examiner objects to the drawings for failing to comply with 37 CFR 1.84(p)(4) alleging reference character "150" is used to designate the indigitated capacitor ("IDC") shown in Figure 4C whereas in Figure 4A "150" does not point to the IDC of Figure 4C. The Examiner further alleges in Figure 4A, the reference number "150" points to a region outside of Figure 4B. Applicants respectfully submit herewith corrected drawing sheets in compliance with 37 CFR 1.121(d) and marked up drawings in which reference number "150" has

been corrected to refer to the correct grouping of components. In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the objection to the drawings on this basis.

III. Claim Rejections – 35 U.S.C. §102(e)

A. In the outstanding Action, claims 6 and 7 stand rejected under 35 U.S.C. §102(e) as being anticipated by U. S. Patent No. 6,069,729 issued to Gill et al ("Gill"). Applicants respectfully traverse the Examiner's rejection for at least the following reasons.

It is axiomatic that to anticipate a claim, every element of the claim must be disclosed within a single reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

In regard to claim 6, Applicants respectfully submits Gill fails to teach at least the elements of "(b) etching the ferroelectric film to form ferroelectric patterns, (c) depositing a metal layer on the substrate on which the ferroelectric patterns are formed; and (d) forming a coplanar waveguide, first electrodes, a ground line, and second electrodes by etching the metal layer covering the ferroelectric patterns" as recited in claim 6. Claim 6 has been amended to clarify that the steps are to be performed in a specific order, e.g. step (b) before step (c), step (c) before step (d). Moreover, Applicants' specification (page 5, lines 32 – page 6, line 18) supports a reading of the claim in which the steps must be performed in the order written therefore the language of the claim should be construed as such. *Loral Fairchild Corp. v. Sony Corp.*, 181 F.3d 1313 at 1322 (Fed. Cir. 1999).

The Examiner alleges Gill teaches forming a co-planar waveguide in col. 3, lines 29-30, col. 4, lines 20-22 and col. 8, line 66 to col. 9, line 9. As is illustrated generally in Figures 20 and 21, however, waveguides are found within the ferroelectric layer prior to patterning the ferroelectric layer and depositing a metal layer. Thus, Gill does not teach "(b) etching the ferroelectric film to form ferroelectric patterns" followed by the step of "(c) depositing a metal layer on the substrate on which the ferroelectric patterns are formed" and then "(d) forming a coplanar waveguide, first electrodes, a ground line, and second electrodes by etching the metal layer covering the ferroelectric patterns" as required by claim 6. Thus, for at least the foregoing reasons, Gill fails to teach each and every element of claim 6. Since each element of claim 6 is

not taught by Gill, anticipation may not be found. Applicants respectfully request reconsideration and withdrawal of the rejection of claim 6 under 35 U.S.C. §102 over Gill.

In regard to claim 7, claim 7 depends from claim 6 and incorporates the limitations thereof. Thus, for at least the reason that Gill fails to anticipate claim 6, Gill further fails to anticipate claim 7. In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 7 under 35 U.S.C. §102 over Gill.

IV. Claim Rejections – 35 U.S.C. §103(a)

A. In the outstanding Action, the Examiner rejects claim 8 under 35 U.S.C. 103(a) as being unpatentable over Gill. Applicants respectfully traverse the rejection for at least the following reasons.

To render a claim obvious, the relied upon references must disclose every limitation of the claim such that the invention as a whole would have been obvious at the time the invention was made to one skilled in the art. MPEP §2143. Furthermore, there must be a showing of suggestion or motivation to modify or combine the teachings of those references. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998).

Claim 8 depends from claim 6 and incorporates the limitations thereof. For at least the reasons discussed above, Gill fails to teach or suggest at least the elements of “(b) etching the ferroelectric film to form ferroelectric patterns, (c) depositing a metal layer on the substrate on which the ferroelectric patterns are formed; and (d) forming a coplanar waveguide, first electrodes, a ground line, and second electrodes by etching the metal layer covering the ferroelectric patterns” found in claim 8. Since Gill fails to teach or suggest each and every element of claim 8, a *prima facie* case of obviousness may not be established. In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 8 under 35 U.S.C. §103 over Gill.

B. In the outstanding Action, the Examiner rejects claims 9 and 10 under 35 U.S.C. 103(a) as being unpatentable over Gill view of Whatmore et al (U.S. Patent Application Publication 2002/118079 (“Whatmore”). Applicants respectfully traverse the rejection for at least the following reasons.

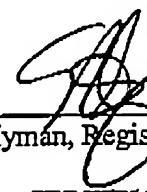
In regard to claims 9 and 10, claims 9 and 10 depends from claim 6 and incorporates the limitations thereof. For at least the reasons discussed above, Gill fails to teach or suggest at least the element of “(b) etching the ferroelectric film to form ferroelectric patterns, (c) depositing a metal layer on the substrate on which the ferroelectric patterns are formed; and (d) forming a coplanar waveguide, first electrodes, a ground line, and second electrodes by etching the metal layer” as required by claims 9 and 10. The Examiner has not pointed to and Applicants are unable to discern a portion of Whatmore curing the deficiencies of Gill with respect to these elements. Since neither Gill nor Whatmore, alone or in combination, teach or suggest each and every element of claims 9 and 10, a *prima facie* case of obviousness may not be established. In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 9 and 10 under 35 U.S.C. §103 over Gill in view of Whatmore.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending, namely claims 6-10, patentably define the subject invention over the prior art of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (310) 207 3800.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP



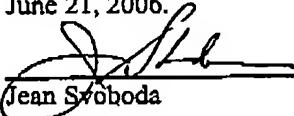
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Dated: June 21, 2006

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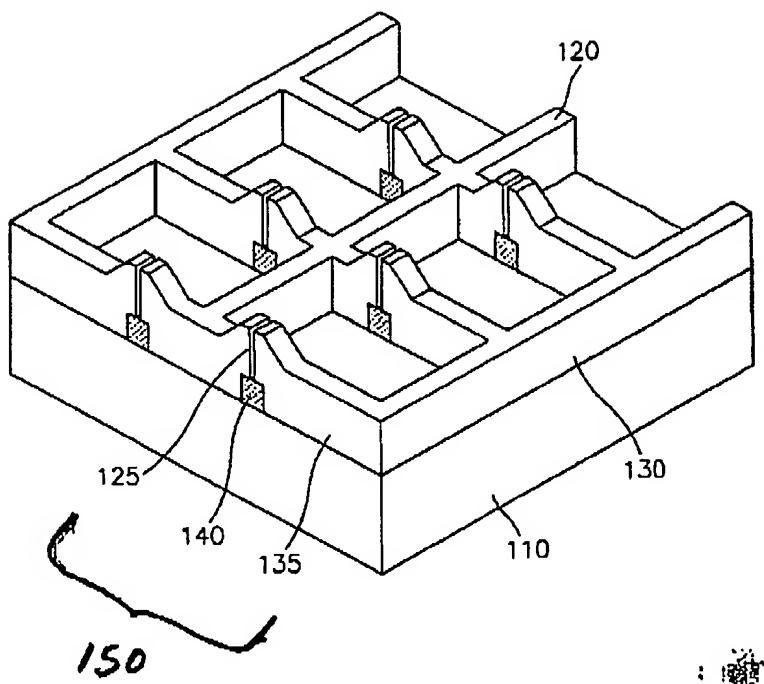
CERTIFICATE OF FACSIMILE:

I hereby certify that this correspondence is being transmitted via facsimile No. (571)273-8300 to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on June 21, 2006.



Jean Svoboda

FIG. 3E



MARKED-UP SHEET

1

Blakely, Sokoloff, Taylor & Zafman LLP (310) 207-3800
Title: DISTRIBUTED ANALOG PHASE SHIFTER USING ETCHED PEROVSKITE THIN FILM AND
METHOD OF MANUFACTURING THE SAME
1st Named Inventor: Han Cheol RYU
Application No.: 10/798,628 Docket No.: 2013P157

FIG. 4A

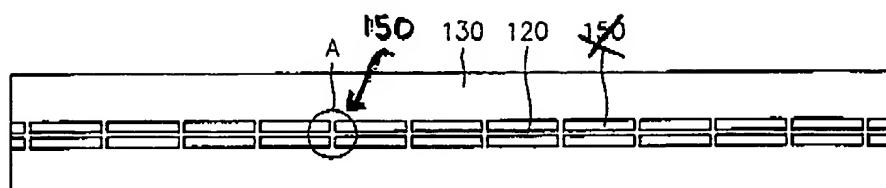


FIG. 4B

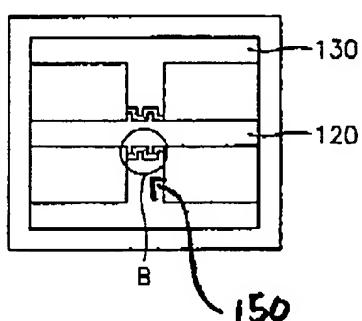
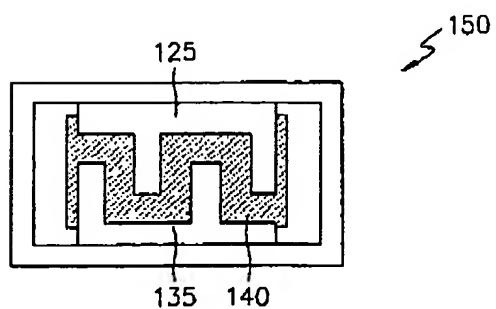


FIG. 4C



1

MARKED-UP SHEET

Blakely, Sokoloff, Taylor & Zafman LLP

(310) 207-3800

Title: DISTRIBUTED ANALOG PHASE SHIFTER USING ETCHED FERROELECTRIC THIN FILM AND

METHOD OF MANUFACTURING THE SAME

1st Named Inventor: Han Cheol RYU

Application No.: 10/798,628

Docket No.: 2013P157